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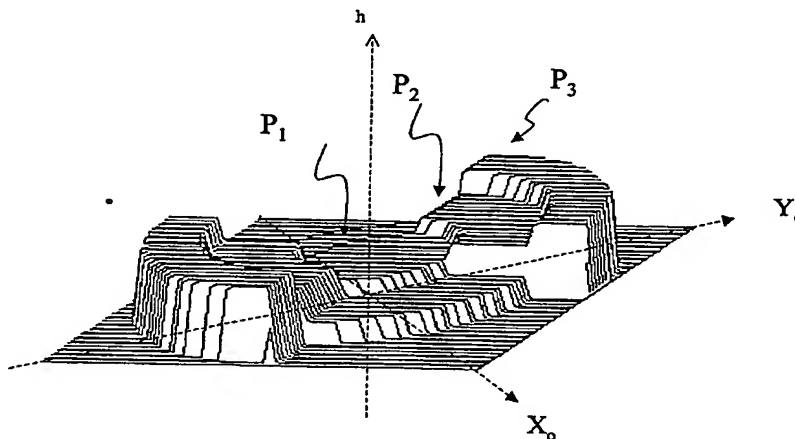
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(54) Title: OPTICAL SCANNING DEVICE

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(57) Abstract: An optical scanning device (1) is for scanning two information layers (2, 2') with two radiation beams (4) in two operating modes. It comprises a radiation source (7) for emitting the two radiation beams, an objective lens system (8) for converging the two beams on the positions of the two information layers, and a phase structure (24) having an optical axis (19) and including a central part (P₁) and at least one marginal part (P₂) for forming a non-periodic stepped profile in the radial direction. One (P₂) of said central and marginal parts (P₁, P₂) includes at least two segments (AS_{2,1}, AS_{2,2}) having two different step heights (h_{2,1}, h_{2,2}), respectively, for introducing in said first operating mode two wavefront modifications $w_{2,1,1}^*$ and $w_{2,2,1}^*$, respectively, and in said second operating mode two wavefront modifications $w_{2,1,2}^*$ and $w_{2,2,2}^*$, respectively, where the difference ($w_{2,1,2}^* - w_{2,2,2}^*$) is asymmetric.

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